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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/078,014	02/19/2002	A. Russell Schindler	RTI 0104 PUS	4742

7590

07/08/2003

John S. Artz  
Ste. 250  
28333 Telegraph Road  
Southfield, MI 48034

EXAMINER
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UPTON, CHRISTOPHER

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

078014

Applicant(s)

Schindler

Examiner

Vpton

Group Art Unit

1724

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☐ Responsive to communication(s) filed on \_\_\_\_\_
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-25 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-25 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some\* ☐ None of the:
  - ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

Office Action Summary

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 4, 6 and 17-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Looney et al.

Looney discloses a groundwater treatment system comprising injection conduits extending horizontally from the entry site for injecting oxygen (see column 5, lines 48-50 and column 9, lines 4-15), as claimed.

3. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Looney.

Claim 25 recites a 15-25% concentration of oxygen in the soil vapor. It is submitted that this is a result effective variable, depending on a variety of factors, such as the oxygen concentration of the gas injected, the amount injected, the type

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and amounts of contaminants and other factors, and therefore fails to patentably distinguish over Looney. Note Looney's disclosure of the use of a variety of gases, including oxygen, depending on the types of contaminants present.

4. Claims 2, 5, 7, 9 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Looney in view of Buehlman et al.

Claims 2, 9 and 22-24 differ from Looney in recitation of using a plurality of injection conduits in each borehole. It is known to use plural injection conduits within a borehole, as exemplified by Buehlman. It would therefore have been obvious for one of ordinary skill in the art to use plural injection conduits in the system of Looney, to provide superior control of the process by delivering the substances to the optimum positions.

With respect to claim 7, note that Buehlman discloses the use of individual flow meters (114). With respect to claim 5, note that Buehlman discloses the injection of microorganisms as well as or in addition to other substances (column 6, lines 42-50).

5. Claims 8 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 2, 5, 8, 9, 17, 21, 22 and 25 above, and further in view of Norris et al.

Claim 8 differs from claim 2 in recitation of the borehole having a remote exit. Claim 10 is an independent claim essentially combining the recitations of claims 17,

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21 and 22 with a borehole with a remote exit, similar to claim 8, while claim 16 recites the injection conduits pulled through the exit.

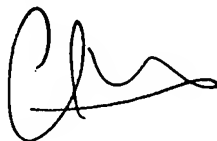
It is known to provide an open-ended borehole in a system of a similar configuration to that of Looney, as disclosed by Norris. Note that Norris discloses that "any convenient means" may be used to provide oxygen (column 4, lines 34-39). It would therefore have been obvious for one of ordinary skill in the art to make the boreholes of Looney as applied to the claims open-ended, to improve the air flow. With respect to claim 16, it is submitted that the conduits of such a system would obviously extend throughout the borehole, to provide aeration throughout the entire borehole.

Claims 11, 12, 14 and 15 are dependent claims essentially reciting the limitations of claims 25, 2, 5 and 9, respectively. With respect to claim 13, which recites liquid oxygen, it is submitted that Buehlman discloses an "air tank" or "liquid oxidant" source (column 6, lines 42-50) as being among the alternatives.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Other references of interest include Schwalbe, Beard, Shaw, Schuring, Carter Layton and Anthony.

7. Any inquiry concerning this communication should be directed to Christopher Upton at telephone number (703) 308-3741.



CHRISTOPHER UPTON  
PRIMARY EXAMINER